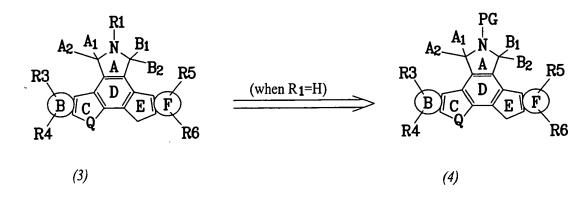


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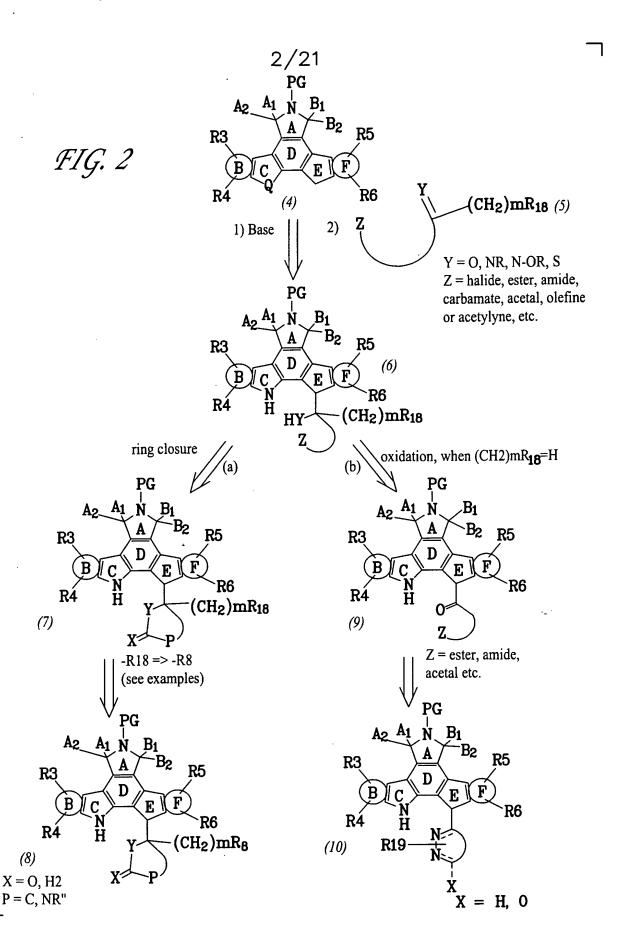
PG = Protecting Group or Polymeric Support MAY 2.5 2004 BY TRADEMARKO

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Title: Cyclic Substituted Fused Pyrrolocarbazoles and Isoindolones

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Preparation of Cyclic Substituents via Intra-Molecular Dipolar Cycloaddition



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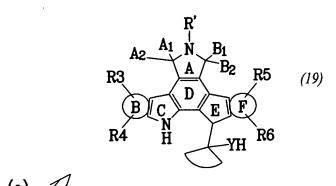
Preparation of Cyclic Substituents via Intra-Molecular Dipolar Cycloaddition

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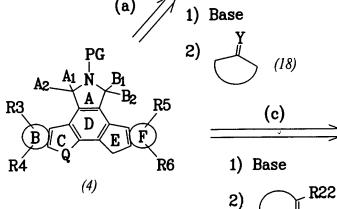
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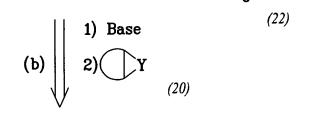
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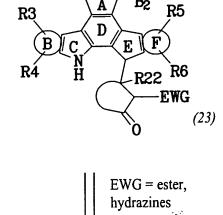
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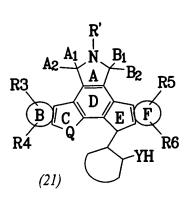


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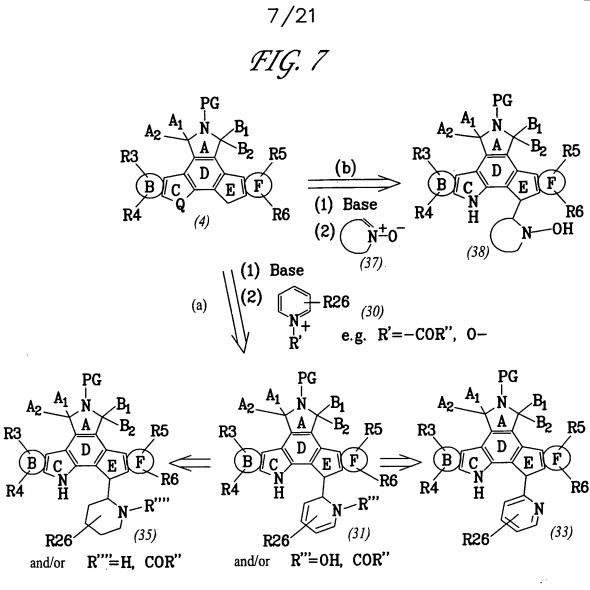
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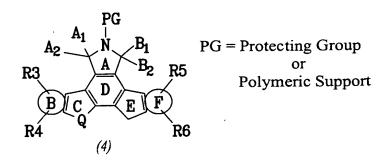




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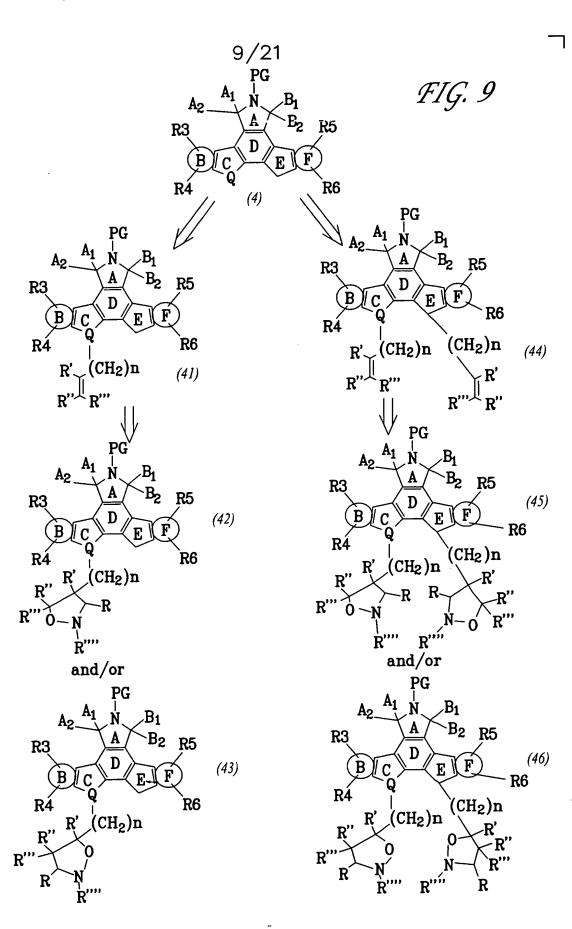
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FIG. 10

PG = Protecting Group Polymeric Support



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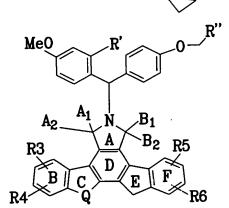
11/21 FIG. 11

Preparation of Soluble and Resin-bound N-lactam protected Fused Pyrrolocarbazoles (FP)

TsOH, Toluene, NMP, 140°C

(51a) R'=H, R''=H

(51b) R'=OMe, R''=Polymer



(R"")2R"Si-X
Base
THF, DMF or NMP $\begin{array}{c|cccc}
R''' & R''' \\
\hline
R3 & A_1 & B_1 \\
\hline
R3 & A_2 & B_2 & R5 \\
\hline
R4 & B_2 & R5 \\
\hline
R5 & D & E & F \\
\hline
R6 & (52) \\
\hline
R1"" = Me, R"" = tBu (TBS)$

- R'''' = Ph, R''' = tBu (TBS)
- (N-protecting group abbreviated as DMB)

(49) R'=H, R"=H>> soluble protected FP

(50) R' = OMe, R" = Polymer >> solid-bound PG (the resin reagent reffered to as Rink-acid resin) This is reffered to in the text as "Resin"

(e.g. Polymer = copolystyrene-1%divinylbenzene)

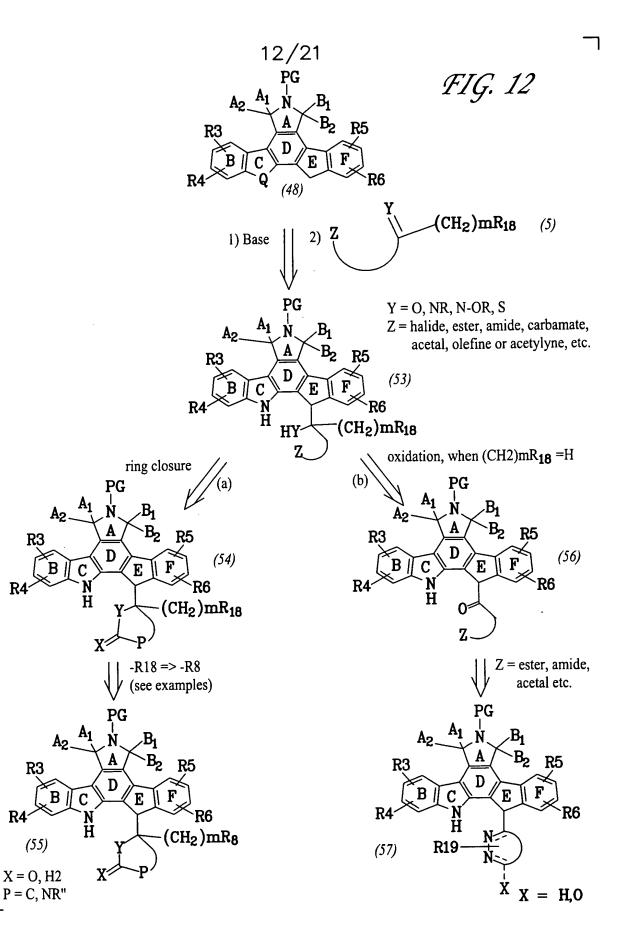
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13/21 FIG. 13

Preparation of Cyclic Substituents via Intra-molecular Dipolar Cycloaddition



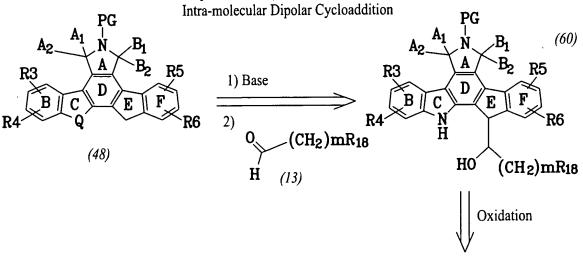
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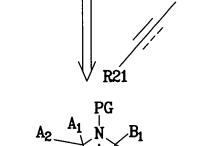
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Preparation of Cyclic Substituents via



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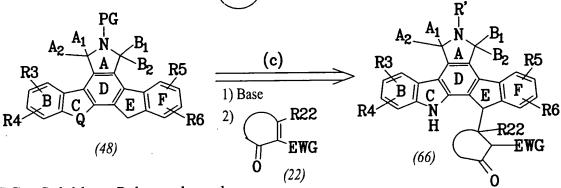


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PG = Soluble or Polymer-bound **Protecting Group**



(18)

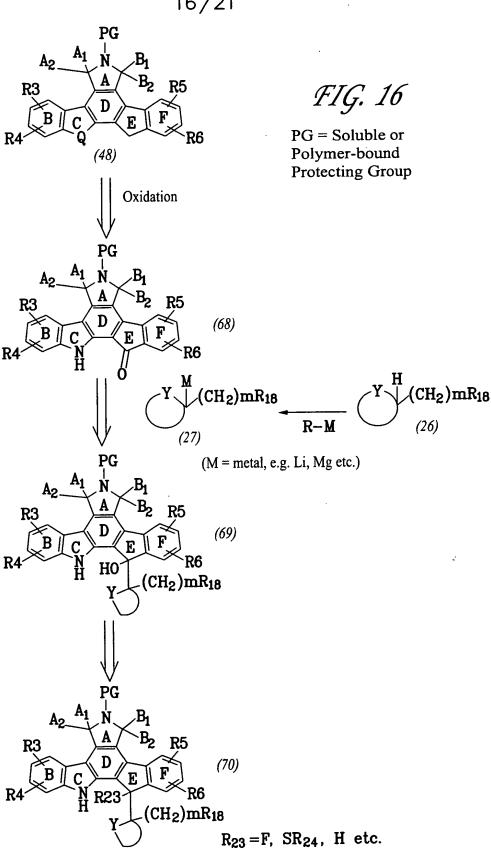
PG = Soluble or Polymer-bound **Protecting Group**



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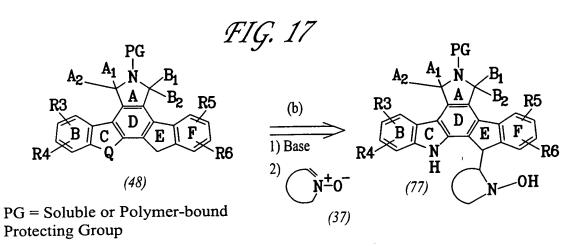


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and/or R''"= H, COR"

and/or R'"= OH, COR"



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FIG. 18

$$R3$$

$$R4$$

$$R3$$

$$R4$$

$$R3$$

$$R4$$

$$R3$$

$$R4$$

$$R4$$

$$R5$$

$$R6$$

$$R6$$

$$R6$$

$$R6$$

$$R6$$

$$R6$$

PG = Soluble or Polymer-bound Protecting Group

for
$$Q = NH$$

$$\begin{array}{c|c}
1) \text{ Base} & (39) \\
2) & Y & (CH_2)n - X
\end{array}$$

$$\begin{array}{c|c}
PG \\
R3 & B \\
R4 & B \\
C & PG
\end{array}$$

$$\begin{array}{c|c}
B_1 & B_2 & R5 \\
\hline
D & E & F \\
R6 & (78)
\end{array}$$

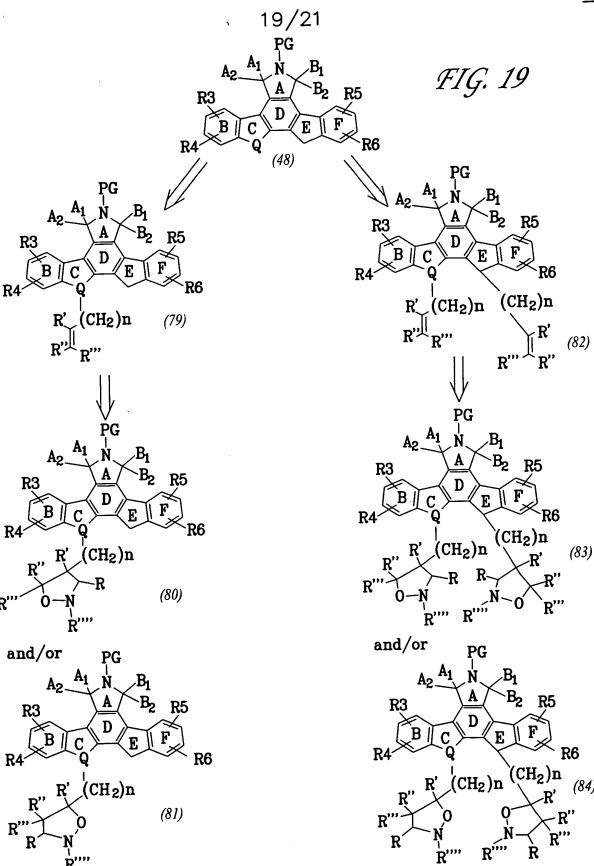
$$\begin{array}{c|c}
(CH_2)n & ($$



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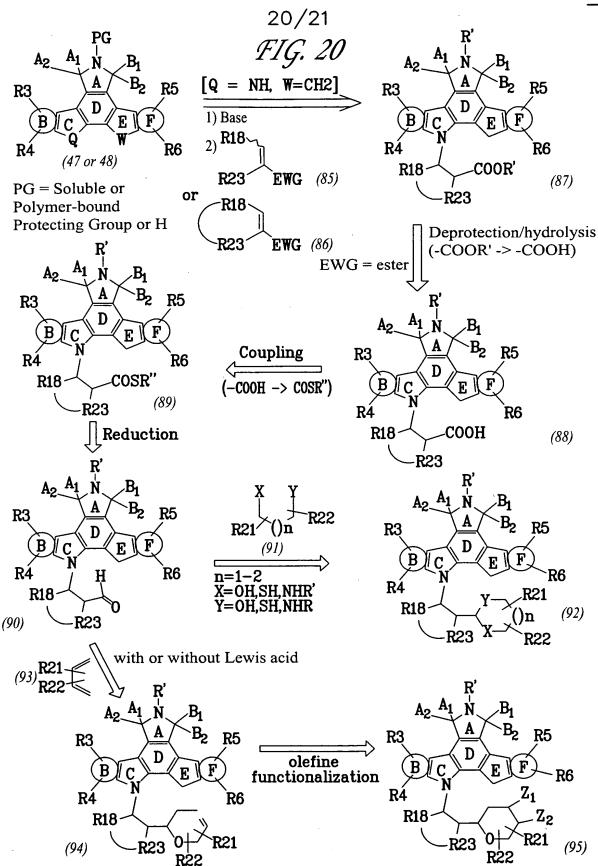
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